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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/871,485	05/31/2001	Hovhannes Ghukasyan	HPLA.005US0	8744

28661 7590 04/19/2004  
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EXAMINER

PHAM, HUNG Q

ART UNIT PAPER NUMBER

2172

DATE MAILED: 04/19/2004

17

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/871,485

**Applicant(s)**

GHUKASYAN ET AL.

**Examiner**

HUNG Q PHAM

**Art Unit**

2172

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 27 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 02/27/2004 has been entered.

***Response to Arguments***

2. Applicant's arguments with respect to claims 1 and 9 have been considered but are moot in view of the new ground(s) of rejection.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

**4. Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suver [USP 6,016,497] in view of Isip, Jr. et al. [USP 6,427,143 B1].**

Regarding to claim 1, Suver teaches a method and system of accessing and storing information embedded in a column of a database row for complex data, which is logically multi-valued or hierarchical. As shown in FIG. 9 is *a data dictionary* of the table schema of FIG. 4 for embedding information from Phones Table into the Phone column of Customers Table of FIG. 6. The data dictionary includes table names as *identifications of related groups of tables in a database*, column information as *information of tables in said related groups*, and column IDs for column names as *identifications of parameters of said related groups*. As shown in FIG. 15 is the routine 1500 for conducting an insert data operation on the database, in response to an insert command. An insert command is handled at 1501, which results from taking the "no" branch from this step. Control passes to step 1525, where a new physical row is created, and the row is stored at step 1515 (FIG. 15, Col. 24, line 62-Col. 25, line 29). As shown in FIG. 5 is a physical row as *input including data to be imported into said database received* in accordance with

Art Unit: 2172

the insert command at step 1501, wherein different rows within physical storage are delimited by square brackets [ ]. Data elements comprising structures are delimited by curly braces { } such as phone number (Col. 10, line 32-Col. 11, line 17; Col. 11, lines 40-44). As seen, the curly brace delimiter indicates *an indication of one of said related groups that is associated with said data*. Suver further discloses a collection of data items is identified by a column identifier and delimited by a column delimiter (Col. 11, lines 30-33) as *indications of parameters associated with said data*. As shown in FIG. 6 is a collection of data from the physical data row 501 of FIG. 5 as discussed above, and under the Phones column is an embedded new table from Phones table schema (Col. 11, lines 17-19, and Col. 11, line 51-Col. 12, line 16). In other words, FIG. 6 performs the claimed *appending one or more portions of said data associated with existing parameters to corresponding one or more existing tables associated with said existing parameters and having tables of said one of said related groups as references; appending data associated with new parameters to a new table created for said new parameters*. Suver does not explicitly teach the step of *updating said data dictionary to include said identifications and information of said new table and new parameters*, and the input is from an *input file*.

However, as taught by Suver, the database system using database commands in basic SQL to manipulate the database such as ALTER TABLE, CREATE TABLE, CREATE VIEW, DELETE FROM, INSERT INTO, SELECT FROM, UPDATE, and SET (Col. 18, lines 1-22). As shown in FIG. 12, after receiving the command at step 1204, and if the command is to update schema at step 1206, the step would be carried out by adding data types, adding new columns to the schema, etc (Col. 20, line 35-Col. 21, line 17).

Art Unit: 2172

As seen, if the command is CREATE TABLE, obviously, *a new table is created with new column names as parameters*. As shown in FIG. 13 is the method of loading an object-relational database and corresponding database schema, and at step 1315, the in-memory database dictionary that relates schema names to tables or data types, column names, column identifiers, etc. is populated in preparation for accessing operations (Col. 21, lines 30-47). As seen, if a new table is created as discussed above, obviously, *data dictionary is updated to include said identifications and information of said new table and new parameters*. Isip teaches a technique of loading data into a table from an input file by using a LOADING utility (Isip, FIG. 1). Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to modify the Suver system by including the step of updating data dictionary using the CREATE TABLE, and INSERT INTO command and the LOADING utility of Isip to load data into a table from an input file in order populate data into an embedded database.

Regarding to claim 2, Suver and Isip teaches all the claimed subject matters as discussed in claim 1, Suver further discloses *a query front-end providing a parameter tree to be displayed to users for facilitating database queries, wherein said data dictionary further includes information for said parameter tree, and said data importer further updates said information for said parameter tree to include information of said new table and new parameters* (Col. 21, lines 30-46).

Regarding to claim 3, Suver and Isip teaches all the claimed subject matters as discussed in claim 1, Suver further discloses *data dictionary has a reference groups table for storing indications of related groups of tables, and including columns for reference groups identifications and reference groups names* (FIG. 9).

Regarding to claim 4, Suver teaches all the claimed subject matters as discussed in claim 1, Suver further discloses *data dictionary has a references table for storing information of reference tables for individual of said related group of tables* (FIG. 9).

Regarding to claim 5, Suver and Isip teaches all the claimed subject matters as discussed in claim 1, Suver further discloses *data dictionary has a parameters table for storing information of parameters associated with individual of said related group of tables* (FIG. 9).

Regarding to claim 6, Suver and Isip teaches all the claimed subject matters as discussed in claim 2, Suver further discloses *data dictionary has a folders table for storing information of a parameter tree to be provided to said query front-end* (Col. 12, lines 37-49).

Regarding to claim 7, Suver and Isip teaches all the claimed subject matters as discussed in claim 6, Suver further discloses *data dictionary has a parameters table for storing information of parameters associated with individual of said related group of tables* (FIG. 9).

Regarding to claim 8, Suver and Isip teaches all the claim subject matters as discussed in claim 7, Suver further discloses *data dictionary has a parameters-to-folders mapping table for mapping said information of parameters to corresponding information in said folders table* (Col. 12, lines 37-49).

Regarding to claim 9, Suver teaches a method and system of accessing and storing information embedded in a column of a database row for complex data, which is logically multi-valued or hierarchical. As shown in FIG. 15 is the routine 1500 for conducting an insert data operation on the database, in response to an insert command. An insert command is handled at 1501, which results from taking the "no" branch from this step. Control passes to step 1525, where a new physical row is created, and the row is stored at step 1515 (FIG. 15, Col. 24, line 62-Col. 25, line 29). As shown in FIG. 5 is a physical row as *input including data to be imported into said database received* in accordance with the insert command at step 1501, wherein different rows within physical storage are delimited by square brackets [ ]. Data elements comprising structures are delimited by curly braces { } such as phone number (Col. 10, line 32-Col. 11, line 17; Col. 11, lines 40-44). As seen, the curly brace delimiter indicates *an indication of one of said related groups that is associated with said data*. Suver further discloses a collection of data items is identified by a column identifier and delimited by a column delimiter (Col. 11, lines 30-33) as *indications of parameters associated with said data*. As shown in FIG. 6 is Customer table 601 with the columns Name, City, State, Zip



Art Unit: 2172

Code, Address, and Phones by implementing the schema of FIG. 4. In column 608g is a separate Phones "sub-table" 603, which comprises PhoneType and PhoneNumber of Phones table schema (Col. 9, line 58-Col. 10, line 8). As shown in FIG. 9 is a data dictionary of the table schema of FIG. 4 for embedding information from Phones Table into the Phone column of Customers Table of FIG. 6. The data dictionary includes related groups of tables in a database (Col. 14, line 61-Col. 15, line 12). As seen, *a set of existing* Name, City, State, Zip Code, Address, and Phones as *parameters and a set of* PhoneType and PhoneNumber as *new parameters from said parameters associated with data are formed*, and *based upon parameter information stored in a data dictionary for said related group of tables*. Again the data in FIG. 6 of Suver performs the claimed *appending one or more portions of said data associated with said set of existing parameters to corresponding one or more existing tables having said related groups of tables as references in said database; importing a remaining portion of said data associated with said set of new parameters to a new table created for said new parameters*. Suver does not explicitly teach the step of *appending data associated with new parameters to a new table created for said new parameters*, and *updating said data dictionary to include said identifications and information of said new table and new parameters*, and the input is from an *input file*.

However, as taught by Suver, the database system using database commands in basic SQL to manipulate the database such as ALTER TABLE, CREATE TABLE, CREATE VIEW, DELETE FROM, INSERT INTO, SELECT FROM, UPDATE, and SET (Col. 18, lines 1-22). As shown in FIG. 12, after receiving the command at step 1204, and if the command is to update schema at step 1206, the step would be carried out by adding

Art Unit: 2172

data types, adding new columns to the schema, etc (Col. 20, line 35-Col. 21, line 17).

As seen, if the command is CREATE TABLE, obviously, *a new table is created with new column names as parameters*. As shown in FIG. 13 is the method of loading an object-relational database and corresponding database schema, and at step 1315, the in-memory database dictionary that relates schema names to tables or data types, column names, column identifiers, etc. is populated in preparation for accessing operations (Col. 21, lines 30-47). As seen, if a new table is created as discussed above, obviously, *data dictionary is updated to include said identifications and information of said new table and new parameters*. Isip teaches a technique of loading data into a table from an input file by using a LOADING utility (Isip, FIG. 1). Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to modify the Suver system by including the step of updating data dictionary using the CREATE TABLE, and INSERT INTO command and the LOADING utility of Isip to load data into a table from an input file in order populate data into an embedded database.

Regarding to claim 10, Suver and Isip teaches all the claimed subject matters as discussed in claim 9, Suver further discloses the step of *identifying said one or more existing tables having said related group of tables as references in said database from information in said data dictionary linking said one or more existing tables to said existing parameters* (Col. 14, lines 14-23).


***Conclusion***

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to HUNG Q PHAM whose telephone number is 703-605-4242. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, JOHN E BREENE can be reached on 703-305-9790. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Examiner Hung Pham  
April 7, 2004

  
SHAHID ALAM  
PRIMARY EXAMINER